

REMARKS

The Office Action dated March 12, 2003 has been reviewed carefully and the application amended in a sincere effort to place the same in condition for allowance. Reconsideration of the prior rejection and allowance of the amended application are respectfully requested on the basis of the following remarks.

The Invention

The present invention has solved a number of longstanding problems in connection with the automated manufacturing or processing of articles. As stated in the specification, beginning at page 23, line 29, reference in the application to "fabrication or manufacturing or processing" includes components, workpieces or semi-fabricated products or articles and will embrace the entire apparatus as recited in elected claims 1 through 34. It is stated to expressly include employing the apparatus to monitor and coordinate inspection, fabrication, counting, transport of components, transport of parts and products from indexing of parts, delivering and removing parts from workstations, packaging of parts and products as well as other desired functions. Specific examples of end use applications are disclosed in connection with the detailed description of two examples of embodiments shown in Figures 15 and 16 as described on page 19, line 3 in connection with a vehicular wheel inspection apparatus and described beginning on page 21, line 8 in respect of a bulk parts counting, handling, delivering and packaging embodiment.

Figures 13 and 14 illustrate examples of a general arrangement.

Apparatus claim 1, which is the sole independent claim remaining in the application, recites apparatus for "processing articles" and includes the apparatus having moveable parts for processing the article. A plurality of microcontroller boards is secured to the apparatus and the boards have a plurality of logic chips secured thereto. Sensors for monitoring operation of the apparatus provide input information regarding a plurality of monitored conditions to the microcontroller boards with the boards being structured to process the input information and emit responsive control signals to other control boards and control portions of the apparatus. Communication exists

- (a) between the sensors and microcontroller boards and
- (b) between the microcontroller boards and
- (c) between microcontroller boards and control portions of the apparatus.

The whereby clause recites the receipt and processing of input information by the microcontroller boards for a plurality of monitored conditions and communicating with other microcontroller boards to effect control of a plurality of monitored apparatus conditions.

Abstract of the Disclosure

The Abstract has been rewritten so as to comply with the requirements as set forth by the Examiner.

Claims 1-9, 11-14, 15-21, 24 and 27-34 – Section 102(b)

These claims were rejected on the basis of EPO 240965. Particular emphasis was directed toward the disclosure portions contained in column 6, line 28 through column 8, line 34 along with Figures 1, 2 and 4.

In electrohydraulic system included a plurality of electrohydraulic devices which were said to be controlled by on-board microprocessor-based control electronics which consist of three elements, i.e., sensor feedback board 56, microprocessor board 58 and power/display/valve-driver board 60. The system of the EPO reference requires that a master controller 36 provides control to each in of a plurality of individual units such as the valve controller 34 which consists of a valve controller 32 and a servo valve 26 with sensors regarding the actuator in the embodiment shown in Figure 1 delivering information to valve controller 34 which combines with the information provided by master controllers 36 to produce a control signal. As shown in Figure 2 and described at the top of column 7, beginning with line 2, the first connector 64 is for connection of the valve controller 32 to the master controller 36. The second connector 66 provides a coupling of the valve controller 32 with particular reference to the sensor feedback board 56 to the actuator position sensor. It is clear that this disclosure contemplates each individual unit being individually controlled by the master controller 36 through a controller 34 mounted on the unit on the basis of information received from the master controller and from the sensor. There is no communication whatsoever between individual units 22a and 22m, nor are there independent smart controllers capable of making decisions as the master controller is required.

By contrast, Applicant's independent claim 1 is directed toward the processing of articles as contrasted with the passive monitoring and provides a plurality of microcontroller boards having a plurality of logic chips secured thereto. The microcontroller boards of Applicant's system process the input information from the sensors and emit responsive control signals "to other said microcontroller boards of and

control portions of the apparatus". There is no teaching whatsoever in the cited EPO reference of control signals going to other microcontroller boards and such an approach is inconsistent with the teaching. Further, unlike Applicant's claim 1, there is no communication among microcontroller boards or, as stated in the whereby clause, "with other microcontroller boards".

As a result, of the EPO reference does not in any way having these distinguishing capabilities recited in Applicant's independent claim 1, and in fact, requires the presence of the master controller which is not required by Applicant. It is respectfully submitted that Applicant's claim 1 and the claims which depend directly or indirectly therefrom, are patentable over the applied EPO reference.

In addition to the foregoing, certain of the dependent claims in this grouping provide additional distinguishing features over the cited reference. Claim 4 recites the creation of articles from workpieces. No such disclosure is provided in the reference.

Dependent claim 5 recites the microcontroller boards being embedded within the apparatus. While the EPO reference shows the device connected to portions of the apparatus, there is no express disclosure regarding embedding.

There is further lacking the recital in claim 6 for effecting communication within the microcontroller boards. The EPO reference discloses communication from board to board.

Dependent claim 9 recites the container disposed within a recess in the apparatus. The microcontroller boards being within the container and a sealing material covering the boards. No such disclosure is contained the applied reference.

With respect to dependent claim 14, there is no disclosure of calibration means disposed exteriorly over the microcontroller boards for providing information to the communication means prior to initiating operation of the apparatus.

As the disclosure relates to printed circuits, there is no disclosure of logic chips being disposed on both surfaces of at least one microcontroller board as in independent claim 15.

There is no disclosure as in claim 16 of a container disposed at least partially within a recess in the apparatus.

In respect of claim 17, there is absolutely no disclosure of a resinous material encapsulating each microcontroller board. To the contrary, there is no protective material covering the boards of the cited reference.

With respect to dependent claim 24, there is no disclosure in the EPO reference of handling of pre-formed articles.

Referring to dependent claim 27, there is no disclosure of articles including at least one article selected from the group consisting of semi-fabricated products and fabricated products. The EPO reference is totally silent on any aspect of this feature.

Dependent claim 28 recites the container having at least one sensor disposed within the container. No such teaching is contained in the reference which teaches that the sensor signal comes from the exterior of the container.

With regard to dependent claim 31, there is no disclosure of a container disposed within a recess within the apparatus.

As to claim 32, there is no express disclosure of the apparatus being portable.

With respect to dependent claim 34, there is no disclosure in the EPO reference of the microprocessor module being secured to different portions of the apparatus and at least some of them being structured to perform different functions than others of the microprocessor boards.

It is respectfully submitted that independent claim 1 is patentable over the EPO references and the claims which depend directly or indirectly therefrom are also patentable thereover. In addition, a number of the dependent claims in this grouping have further reasons for being deemed patentable over the applied reference.

It is respectfully submitted, therefore, that claims 1-9, 11-14, 15-21, 24 and 27-34 are patentable over the EPO reference.

Claims 10, 14, 22, 23, 25 and 26 – Section 103(a)

These claims were rejected on the basis of the same EPO reference. The comments made hereinbefore with respect to the same are equally applicable at this juncture.

These claims all depend directly or indirectly from independent claim 1 and for reasons stated hereinbefore are deemed to be patentable based upon such dependency.

In addition, it is respectfully submitted that in the absence of a teaching in the art, certain of the dependent claims in this group are patentable above and beyond the recited dependency.

With respect to claim 10, Applicant is not seeking to claim that Applicant has uniqueness in determining that an epoxy can be sealing material. More specifically, Applicant has provided a means for resisting undesired access to the logic chips for purpose of vandalism, thievery or reverse engineering by employing an epoxy to

"substantially completely" cover the chip such that removal of the epoxy will at least partially destroy the logic chips. It is respectfully submitted that this is not taught or suggested in the art.

The feature of claim 14 is not asserted as independently establishing patentability apart from its dependency from claim 1.

The use of epoxy in the encapsulating mode as recited in claim 22 which depends from claim 17 is deemed to be patentable in context as set forth in connection with the discussion of claim 10.

The feature of claim 23 is not asserted as independently contributing to patentability.

The use of the apparatus in the present invention for processing articles including inspection is not believed to be taught or suggested by the prior art. Similarly, in context, the packaging recital of claim 26 is deemed to contribute to patentability.

It is respectfully submitted that on the basis of dependency directly or indirectly from independent claim 1, or the selected dependent claims which add features deemed to be patentable, that claims 10, 14, 22, 23, 25 and 26 are patentable.

Summary and Conclusions

In view of the revision to the Abstract, and the foregoing discussion, it is respectfully submitted that claims 1 through 34 are in proper form for issuance of a Notice of Allowance, and such action is respectfully requested at an early date.

Respectfully submitted,


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